REMARKS

Applicants submit that restriction between Groups I through XVII is unnecessary. According to MPEP § 803, the Examiner should examine all claims in an application, even though they are directed to distinct inventions, unless to do so would create a serious burden. Here, the burden is minimal because of the considerable commonality of elements between the claim sets. For example, the various claims are directed to methods and related devices for nanowire based detection of components or responses of interest.

Proposed Alternate Grouping of Claims

The Office and Applicants have a mutual interest in efficient prosecution of applications and to reduce the number of continued and divisional applications. In the spirit of cooperation, Applicants propose the following alternate grouping of claims for consideration.

Group I - Claims 1-16. Methods and arrays wherein, e.g., functionalized nanowires detect a component of interest from a change in charge. This proposed group would be a combination of groups I and II of the Action. Applicants suggest these claims are not best characterized as being in separate classes, but in the same class 435, subclass 4.

Group II - Claim 17. Nanosensor for glucose. Group III of the Action. Perhaps, best classified as class 435, subclass 7.91.

Group III - Claims 18-28 and 40-45. Methods of measuring a cell response with nanowires. A combination of groups IV, VI and VII of the Action. All in the same classification of class 435, subclass 7.2.

Group IV - Claims 29-39 and 68-72. Methods and devices directed to, e.g., microfluidic applications using arrays of nanowires. A combination of groups V, XII and XIII of the Action. All of the same classification of class 137; there being no particular reason to place Action group V in a separate class or subclass away from Action groups XII and XIII.

Group V - Claims 46-52. Methods and devices directed to, e.g., arrays of functionalized nanowires. A combination of groups VII and IX of the Action. Best classified as class 977, subclass 702.

Group VI - Claims 53-67. Methods and apparatus wherein, e.g., cells are fragmented by heat and the fragments detected through nanowire sensors. Applicants note that

there is no particular reason to classify Action groups X and XI separately outside of class 977, subclass 703.

Group VII - Claims 68-72. Methods and a device employing a device comprising an array of nanowires on the bottom of a microfluidic channel. Groups XII and XIII of the Action; classified as class 137, subclass 814.

Group VIII - Claims 73-78. Methods and devices involving field effect transistors with hairpin oligonucleotides bound to the substrate. Groups XIV and XV of the Action. There being no substantial reason to classify them separately, Applicants suggest the claims are best classified together in class E51, subclass 5.

Group IX - Claim 79. Action group XVI.

Group X - Claims 80-81. Action group XVII.

Claims of the proposed groups are closely related within the same classification and with substantial common elements. Applicants respectfully request the reconsideration of the restriction groups to condense the Action's 17 groups to this more manageable and efficient set of 10 groups.

Response to Rationale of the Restriction Action

Applicants note that the restriction requirement is based on allegations that claims are inconsistently anticipated by certain references. That is, on page 4 of the Action, the Examiner asserts that certain related methods and device claims are not anticipated by the same reference, and therefore the subject matter must be "largely divergent". This logic fails, however, because in fact none of the claims are anticipated by the cited references.
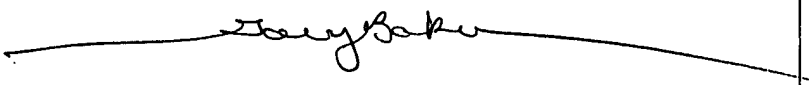
The Action argues, for example, that group I claims to methods of detecting a change in charge with nanowires are divergent from group II nanowire arrays for detection of a change in charge. This is based on the allegation that the arrays are anticipated by U.S. patent 6,733,828 (Chao), but the methods are not. However, the Chao specification does not teach several limitations necessary to anticipate the claims of either group I or group II, (see Kalman v. Kimberly-Clark Corp., 218 USPQ 781, 789 (Fed. Cir. 1983). For example, independent claim 1 (group I) and independent claim 10 (group II) each include the limitations of, e.g.: nanowires comprising a functional group; detection a component of interest; and, the component producing a change in charge in a functional group. These limitations are not present in Chao.

In a similar fashion, the Action argues that group VI claims to methods of measuring a cellular response are divergent from group VII intracellular detection devices. The Action argues there is unacceptable divergence between the groups based on the allegation that although the methods are anticipated by U.S. application 2004/0038307 (Lee), the devices are not. Again, this logic can not hold because Lee does not anticipate claims of either group. For example, Lee does not describe at least the independent method claim 40 (group VI) limitations of: measuring a cellular response; positioning a nanowire proximal to a cellular membrane; or, penetrating a cellular membrane. Lee does not describe at least the independent device claim 45 (group VII) limitations of: a cell associated with a nanowire; or, a portion of the nanowire extending through the cellular membrane. Because the claims are not anticipated by the cited art, the restriction is improper.

Should the Examiner be unpersuaded to withdraw restriction between many of the groups, Applicants request careful reconsideration of the restriction between at least groups I and II. Careful review of independent claims 1 and 10, for example, shows the search for references would be largely coextensive. Claim 1 is a method of, e.g., detecting a change in charge in the presence of a component of interest with the provision of nanowires comprising a functional group. Claim 10 is, e.g., an array of nanowires comprising a functional group for detection of a change in charge when exposed to a component of interest. The claims are in the same best fit class and subclass. Surely it can not be considered a serious burden to search closely related groups I and II at once. Applicants respectfully request that at least groups I and II be rejoined.

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Attachments:

    1) A transmittal sheet;
    2) A fee transmittal;
    3) A petition of an extension of one month; and,
    4) A receipt indication postcard.